What Is Claimed Is:

1. A telecommunication network for providing high speed remote access from a plurality of locations to a plurality of remote targets, wherein each of said plurality of locations is connected to a central office by a local loop, said telecommunication network comprising:

an access multiplexor having a plurality of ISDN digital subscriber loop (IDSL) interfaces for interfacing with any of said local loops using an IDSL technology, said IDSL technology supporting a bandwidth of 128 Kbps or 144 Kbps,

said access multiplexor having a plurality of another interfaces for interfacing with at least some of said local loops using another DSL technology, wherein said another DSL technology supports a bandwidth greater than 128 Kbps or 144 Kbps,

said plurality of IDSL interfaces and said plurality of another interfaces being designed to receive a plurality of packets from said plurality of locations on said plurality of local loops, each of said plurality of packets being destined to one of said plurality of remote targets; and

a data switch coupled to said one of said plurality of remote targets by a bandwidth pipe, said data switch receiving said plurality of packets from said access multiplexor and delivering the data bits in said plurality of packets to said one of said plurality of remote targets using said bandwidth pipe irrespective of whether each of said plurality of packets is received on said IDSL interface or said other interface,

wherein said plurality of IDSL interfaces allows said telecommunication network to provide a minimum bandwidth of 128 Kbps or 144 Kbps to any of said plurality of locations, and said plurality of another interfaces enables said telecommunication network to provide higher

bandwidth to some locations.

2. The telecommunication network of claim 1, wherein said another DSL technology comprises Asymmetric DSL (ADSL) technology, and each of said another interfaces comprises an ADSL interface.

3. The telecommunication network of claim 2, wherein each of said IDSL interfaces receive said plurality of packets as a plurality of frames, and wherein each of said ADSL interfaces receive said plurality of packets as a plurality of cells.

4. The telecommunication network of claim 3, further comprising two bandwidth pipes connecting said data switch and said access multiplexor, wherein one of said two bandwidth pipes is used to transfer packets received on said ADSL interfaces and the other bandwidth pipe is used to transfer packets received on said IDSL interfaces.

5. The telecommunication network of claim 3, wherein said data switch is designed to convert said plurality of cells into new frames and said plurality of frames into new cells, wherein the conversion allows said data switch to deliver all data destined for said one of said plurality of remote targets using said shared bandwidth pipe irrespective of whether each of said packets is received on said ADSL interfaces or said IDSL interfaces.

6. The telecommunication network of claim 1, wherein said telecommunication network further comprises a plurality of multiplexors, a plurality of data switches, and a plurality of access multiplexors to supports a large geographical area and large number of locations.

7. The telecommunication network of claim 1, wherein said access multiplexor is located within said central office and said data switch is located outside of said central office.

8. The telecommunication network of claim 1, wherein said local loops are dedicated for remote access.

9. The telecommunication network of claim 1, wherein said access multiplexor and said data switch are designed to transfer data from said plurality of remote targets to said plurality of locations.

10. A telecommunication network for providing high speed remote access from a plurality of locations to a plurality of remote targets, wherein each of said plurality of locations is connected to a central office by a local loop, said telecommunication network comprising:

receiving means located in a central office for receiving a plurality of packets from said plurality of locations on said local loops, each of said plurality of packets being destined to one of said plurality of remote targets, said receiving means including a plurality of ISDN digital subscriber loop (IDSL) interfaces for interfacing with any of said local loops using an IDSL

technology, said IDSL technology supporting a bandwidth of 128 Kbps or 144 Kbps on a local loop connected by a corresponding IDSL interface, said receiving means having a plurality of another interfaces for interfacing with at least some of said local loops using another DSL technology, wherein said another DSL technology supports a bandwidth greater than 128 Kbps or 144 Kbps;

multiplexor means coupled to said receiving means for receiving the data received in said packets;

switching means coupled to said multiplexor means for receiving said data in said plurality of packets, said switching means delivering said data in said plurality of packets to said one of said plurality of remote targets using a shared bandwidth pipe irrespective of whether any of said plurality of packets is received using IDSL technology or said another DSL technology,

wherein said plurality of IDSL interfaces allows said telecommunication network to provide a minimum bandwidth of 128 Kbps or 144 Kbps to any of said plurality of locations, and said plurality of another interfaces enables said telecommunication network to optionally provide higher bandwidth to some locations.

11. The telecommunication network of claim 10, wherein said another DSL technology comprises Asymmetric DSL (ADSL) technology, and each of said another interfaces comprises an ADSL interface.

12. The telecommunication network of claim 11, wherein each of said IDSL interfaces

receive said plurality of packets as a plurality of frames, and wherein each of said ADSL interfaces receive said plurality of packets as a plurality of cells.

13. The telecommunication network of claim 12, further comprising two bandwidth pipes connecting said switching means and said multiplexor means, wherein one of said two bandwidth pipes is used to transfer packets received on said ADSL interfaces and the other bandwidth pipe is used to transfer packets received on said IDSL interfaces.

14. The telecommunication network of claim 12, wherein said switching means is designed to convert said plurality of cells into new frames and said plurality of frames into new cells, wherein the conversion allows said switching means to deliver all data destined for said one of said plurality of remote targets using said shared bandwidth pipe irrespective of whether each of said packets is received on said ADSL interfaces or said IDSL interfaces.

15. A method of providing high speed remote access from a plurality of locations to a plurality of remote targets, wherein each of said plurality of locations is connected to a central office by a local loop, said method comprising the steps of:

(a) locating an access multiplexor in a central office, wherein said access multiplexor includes a plurality of ISDN digital subscriber loop (IDSL) interfaces for interfacing with any of said local loops using an IDSL technology, said IDSL technology supporting a bandwidth of 128 Kbps or 144 Kbps, said access multiplexor having a plurality of another interfaces for

interfacing with at least some of said local loops using another DSL technology, wherein said another DSL technology supports a bandwidth greater than 128 Kbps or 144 Kbps;

(b) receiving a plurality of packets from said plurality of locations on said plurality of local loops, each of said plurality of packets being destined to one of said plurality of remote targets;

(c) providing a data switch to receive said plurality of packets from said access multiplexor;

(d) transferring said plurality of packets to said data switch;

(e) delivering each data bit in said plurality of packets to said one of said plurality of remote targets using a shared bandwidth pipe irrespective of whether any of said plurality of packets is received using IDSL technology or said another DSL technology,

wherein said plurality of IDSL interfaces allows said method to provide a minimum bandwidth of 128 Kbps or 144 Kbps to any of said plurality of locations, and said plurality of another interfaces enables said method to optionally provide higher bandwidth to some locations.

16. The method of claim 15, wherein said another DSL technology comprises Asymmetric DSL (ADSL) technology, and each of said another interface comprises an ADSL interface, and wherein step (b) comprises the steps of:

(f) receiving some of said plurality of packets as a plurality of cells on said ADSL interfaces; and

(g) receiving some other of said plurality of packets as a plurality of frames on said IDSL

interfaces wherein each of said IDSL interfaces receive said plurality of packets as a plurality of frames.

17. The method of claim 16, wherein steps (c) and (d) comprise the steps of:

providing two bandwidth pipes connecting said data switch and said access multiplexor,

transferring packets received on said ADSL interfaces on one of said two bandwidth pipes; and

transferring packets received on said IDSL interfaces using the other bandwidth pipe.

18. The method of claim 16, further comprising the step of converting said plurality of cells into new frames and said plurality of frames into new cells, wherein the conversion allows said data switch to deliver all data destined for said one of said plurality of remote targets using said shared bandwidth pipe irrespective of whether each of said packets is received on said ADSL interfaces or said IDSL interfaces.

19. The method of claim 15, further comprising the step of transferring data from said plurality of remote targets to said plurality of plurality locations to provide said high speed remote access.

20. The method of claim 15, further comprising the step of dedicating said local loops for remote access.